IN THE CLAIMS

Please add the following new claims 43-49. The claims are believed supported on page 5 of the specification. The claims are believed to introduce no new matter. A clean version of the claims has been provided in Appendix A for the convenience of the Examiner. The appendix pages may be treated as substitute pages for the pages of claims in the present application.

43. A method for generating messages in an access network, the method comprising:

generating MAP messages at a Head End for an upstream channel associated with a plurality of nodes, each MAP message specifying a start allocation time determined using a lookahead time value;

obtaining propagation delay data associated with at least a portion of the plurality of nodes using the upstream channel, the propagation delay data for a node being obtained from ranging procedures performed between the Head End and the node; and

dynamically adjusting the lookahead time value associated with the generating of MAP messages for the upstream channel using the propagation delay data.

44. The method of claim 43, further comprising determining a minimum propagation delay value corresponding to a farthest on-line node on the upstream channel;

wherein the dynamic adjustment of the lookahead time value includes calculating the lookahead time value using the minimum propagation delay value.

45. The method of claim 44, wherein the minimum propagation delay value is a maximum runtime propagation delay value of the propagation delay data for the upstream channel.

46. The method of claim 44 wherein the lookahead time value is calculated by adding together a plurality of network delay aspects, the plurality of delay aspects comprising:

a MAP construction delay at the Head End;

an interleaver delay;

the minimum propagation delay, expressed in terms of a round-trip delay;

and a MAP processing delay at a network node.

2

47.   The method of claim 44 further comprising:

determining a first propagation delay value associated with a first node on the at least one upstream channel;

comparing the first propagation delay value to a stored propagation delay value; and

if the first propagation delay value is greater than the stored propagation delay value, replacing the stored propagation delay value with the first propagation delay value.

48.   An apparatus for generating messages in an access network, the apparatus comprising:

means for generating MAP messages for an upstream channel associated with a plurality of nodes, each MAP message specifying a start allocation time determined using a lookahead time value;

means for obtaining propagation delay data associated with at least a portion of the plurality of nodes using the upstream channel, the propagation delay data for a node being obtained from ranging procedures performed between the Head End and the node; and

means for dynamically adjusting the lookahead time value associated with the generating of MAP messages for the upstream channel using the propagation delay data.

49.   The apparatus of claim 48, further comprising means for determining a minimum propagation delay value corresponding to a farthest on-line node on the upstream channel;

wherein the dynamic adjustment of the lookahead time value includes calculating the lookahead time value using the minimum propagation delay value.